ABSTRACT

A distal tip for a catheter comprises first and second lumens extending therethrough, wherein in an operative configuration, the first and second lumens are coupled to first and second lumens of a dual lumen catheter with a first opening of the distal tip fluidly connected to the first lumen for inflow of fluid from a body lumen into which the distal tip is inserted in a normal mode of operation and for outflow of fluid thereto in a reverse mode of operation and a second opening fluidly connected to the second lumen. The second opening is disposed distally from the first opening and separated therefrom by a selected stagger distance for outflow of fluid therefrom when the catheter is in the normal mode of operation and for inflow of fluid from the body lumen in a reverse mode of operation. The distal tip also includes a contoured flow deflection element directing, in the reverse mode of operation, outflow from the first opening away from the second opening and a contoured outlet portion of the second opening reducing an outflow velocity therefrom in the normal mode of operation.